Syllabus and Scheme of Examination for the Post of Junior Laboratory Assistant
(Technical) – NKN, PC Lab & HPC.
Advertisement No. IIT Mandi/Recruit./NTS/2023/02 dated 22.03.2023

Date: 06.11.2023
Reporting Time: 09:30 a.m.

There will be two stage examination.
Stage I : Written Examination (Duration: 01:00 hour)- MCQ based.
Stage II : Skill/Trade Test

The written examination and trade/skill test will be conducted in three main areas with the following topics in each area:

1. Programming and Data Structures
C/C++ Programming concepts: conditional statements, loops, etc.
Elementary Data Types: Int, Float, Object oriented programming concepts
Abstract Data Type: Linked Lists, Trees, Heaps, Graphs, etc.
Searching Algorithms
Sorting Algorithms
MST and Graph Algorithms
Time and Space Complexity analysis

2. Database and Web Technologies
Basics of Database
RDBMs concepts
Normal Forms
Schemas
SQL on MySQL/MS Server/Oracle
JDBC/ODBC connectivity
Basic HTML tags
Front end designing: HTML tags and CSS
Backend designing (event based) using Java Scripts
Dynamic web page designing in PHP/ASP.NET/JSP etc.

3. Networking and Operating Systems
Basics of Network communication: OSI model, etc.
Various Protocols: HTTP, HPPTS, TCP/IP, UDB, ICMP protocols
Authentication and Authorization
Network devices and their functionality and uses
Responsibilities of OS
User Interface
Types of OS: Network, Distributed
Various OS: DoS, GUI, Windows, Linux based Oss
System calls, Shell programming
Resource allocation and process management
Deadlock detection, prevention and avoidance algos
Other topics: Security, Files Systems and Storage, Networking.